

Serial No.: 10/597,660
Examiner: Hien N. Nguyen
Reply to Office Action Mailed April 15, 2009
Page 8 of 11

REMARKS

Reconsideration is requested in view of the above amendments and the following remarks. Claims 1-3, 6-8 and 14-16 have been revised. Support for the revisions can be found at, e.g., paragraphs [0039] to [0040] of the specification and Fig. 1, among other places. Claims 4-5 have been canceled without prejudice. Claims 1-3, 6-8 and 14-16 remain pending in the application. Applicants note that the Office Action Summary Sheet lists claims 1-16, rather than claims 1-8 and 14-16 as pending. Claims 9-13 were canceled in the Preliminary Amendment filed August 2, 2006.

Claim Rejections – 35 USC § 102

Claims 1-8 and 14-16 are rejected under 35 USC § 102(b) as being anticipated by Cameron et al. (JP 2002-282251). Applicants respectfully traverse this rejection. The rejection of claims 4 and 5 is moot in view of the cancellation of those claims. Applicants are not conceding the correctness of the rejection for claims 4 and 5.

Claim 1 requires a communication line interface that reproduces from a cine memory a frame that is requested to be retransmitted by an examiner-side apparatus after freezing, and retransmits the frame to the examiner-side apparatus via the communication line.

The present arrangement is advantageous because, even when frames are missing from image data in an intermittent live mode transmission due to an insufficient speed of the communication line, the apparatus can perform cine-memory reproduction and display images with no missing frame after freezing. This helps avoid degradation of image quality and avoid time lag due to data compression (see, e.g., page 3, paragraph [0009] of the specification, among other places).

Cameron et al. fail to disclose a communication line interface that reproduces from a cine memory a frame that is requested to be retransmitted by an examiner-side apparatus after freezing, and retransmits the frame to the examiner-side apparatus via the communication line, as required by claim 1. Instead, Cameron et al. merely discuss an ultrasonic imaging system that transmits a frame group compressed in MPEP form (see Cameron et al., Abstract). A sending TCP/IP net work connection 24 in Cameron et al.

Serial No.: 10/597,660
Examiner: Hien N. Nguyen
Reply to Office Action Mailed April 15, 2009
Page 9 of 11

would not retransmit a specific frame in the frame group (see Cameron et al., Fig. 1). In fact, the images transmitted from a sending side of the Cameron et al. ultrasonic imaging system are in the form of a compressed frame group and in case of retransmitting the frame group, the entire compressed frame group, rather than the specific frame, would be retransmitted.

For at least these reasons, claim 1 is patentable over Cameron et al. Claim 3 depends from claim 1 and is patentable along with claim 1 and need not be separately distinguished at this time. Applicants are not conceding the relevance of the rejection to the remaining features of the rejected claims.

Claim 2 requires a communication line interface that requests a communication line interface of a subject-side apparatus to retransmit a frame to be reproduced so as to retransmit the frame via the communication line, every time after freezing when moving a pointer that designates the frame to be reproduced from a cine memory that sequentially stores an ultrasonic signal received by an ultrasonic wave transmission/reception portion of the subject-side apparatus per each frame.

The present arrangement is advantageous because, even when frames are missing from image data in an intermittent live mode transmission due to an insufficient speed of the communication line, the apparatus can perform cine-memory reproduction and display images with no missing frame after freezing. This helps avoid degradation of image quality and avoid time lagging due to data compression (see, e.g., page 3, paragraph [0009] of the specification, among other places).

Cameron et al. fail to disclose a communication line interface that requests a communication line interface of a subject-side apparatus to retransmit a frame to be reproduced so as to retransmit the frame via the communication line, every time after freezing when moving a pointer that designates the frame to be reproduced from a cine memory that sequentially stores an ultrasonic signal received by an ultrasonic wave transmission/reception portion of the subject-side apparatus per each frame, as required by claim 1. Instead, Cameron et al. merely discuss an ultrasonic imaging system that transmits a frame group compressed in MPEP form (see Cameron et al., Abstract). A

Serial No.: 10/597,660
Examiner: Hien N. Nguyen
Reply to Office Action Mailed April 15, 2009
Page 10 of 11

receiving TCP/IP net work connection 26 in Cameron et al. would not request the sending side of the ultrasonic imaging system to retransmit a specific frame to be reproduced (see Cameron et al, Abstract and Fig. 1). Nor does the receiving side of the Cameron et al. ultrasonic imaging system include a pointer that designates the frame to be reproduced from a cine memory. In fact, the images transmitted from a sending side of the Cameron et al. ultrasonic imaging system are in the form of a compressed frame group and in case of retransmitting the frame group, the entire compressed frame group, rather than the specific frame, would be retransmitted. For at least these reasons, claim 2 is patentable over Cameron et al.

Claims 6 and 14 include similar limitations of claim 1 concerning a communication line interface that reproduces from a cine memory a frame that is requested to be retransmitted by an examiner-side apparatus and retransmits the frame to the examiner-side apparatus and are patentable for the reason discussed for claim 1. Claims 8 and 16 depend from claims 6 and 14, respectively, and are patentable along with claims 6 and 14 and need not be separately distinguished at this time. Applicants are not conceding the relevance of the rejection to the remaining features of the rejected claims.

Claims 7 and 15 include similar limitations of claim 2 concerning a communication line interface that requests a communication line interface of a subject-side apparatus to retransmit a frame to be reproduced so as to retransmit the frame via the communication line and are patentable for the reason discussed for claim 2. Applicants are not conceding the relevance of the rejection to the remaining features of the rejected claims.

Reconsideration and withdrawal of the rejection are respectfully requested.

Serial No.: 10/597,660
Examiner: Hien N. Nguyen
Reply to Office Action Mailed April 15, 2009
Page 11 of 11

In view of the above, favorable reconsideration in the form of a notice of allowance is respectfully requested. Any questions regarding this communication can be directed to the undersigned attorney, Douglas P. Mueller, Reg. No. 30,300, at (612) 455-3804.

Respectfully submitted,

HAMRE, SCHUMANN, MUELLER &
LARSON, P.C.
P.O. Box 2902-0902
Minneapolis, MN 55402-0902
(612) 455-3800

By:


Douglas P. Mueller
Reg. No. 30,300

Dated: July 14, 2009

DPM/cy